added to claim 13 can be found in the present specification including at page 10, line 35 to page 11, line 6. No new matter has been added by the above claim amendments.

The rejection of claims 13, 14, 16, 17, 19 and 22-24 under 35 U.S.C. § 103 over Takimoto in view of JP '345 is respectfully traversed. One of ordinary skill in the art would not be motivated to combine Takimoto with JP '345 for the many reasons provided in the Amendment dated January 30, 1995, in the subject application. For this reason alone, the Section 103 rejection should be withdrawn.

However, even if Takimoto was combined with JP '345, the claimed invention would not be taught or suggested by the combination for the many reasons provided in the Amendment dated January 30, 1995, in the subject application, and for the following reasons. In the Amendment dated January 30, 1995, at page 9, last line, the term "polyethylene" should be "polyurethane". This was a typographical error.

The claimed invention recites steering wheel <u>pad</u> comprising a thermoplastic aliphatic polyurethane that is "heat-treated" and PVC. Heat-treating the thermoplastic aliphatic polyurethane results in a homogenous blend of the thermoplastic aliphatic polyurethane and the PVC.

In the Official Action dated May 25, 1995, Examiner stated that "Takimoto suggests steering wheel materials which encompasses steering wheel pad." The Applicants respectfully

disagree with the Examiner. Steering wheel materials are required to have a soft feel to the hands of the drivers. If the steering wheel material is hard at low temperatures, it causes no problems related to steering the automobile.

However, the materials of a steering wheel <u>pad</u> are required to have characteristics other than feel. For example, if the steering wheel pad materials are hard in the low temperature, it may cause a significant problem. For example, if a horn switch, an air bag device, or an energy absorbing device is mounted inside the pad, it may not function properly because of the hardness of the pad materials. Therefore, steering wheel pad materials must have different characteristics than the steering wheel material. Thus, a steering wheel material does not teach or suggest a steering wheel <u>pad</u> material.

Takimoto (steering wheel material) discloses using PVC, NBR, and phthalic acid ester. Takimoto does not disclose using a thermoplastic aliphatic polyurethane, and in particular no heat-treated thermoplastic aliphatic polyurethane. Takimoto also does not suggest blending a heat-treated thermoplastic aliphatic polyurethane with PVC and TPU. Furthermore, Takimoto does not disclose using a PVC having an average polarization degree of 700 to 2500.

JP '345 discloses a thermoplastic polyurethane, which is <u>not</u> heat-treated. Consequently, if a steering wheel pad is made of this material (combination Takimoto and JP '345), that pad will

not have good pliability characteristics at both low and high temperatures because the thermoplastic polyurethane (not heattreated) and the PVC will not blend homogeneously.

Furthermore, the steering wheel pad is in the direct line of eye-sight of a driver of an automobile. Therefore, the steering wheel pad must have a good appearance, i.e. no flow marks or border-lines.

If a PVC is used having a polymerization degree of less than 700, the PVC will have a poor mixing ability and dispersibility so that flow marks will occur when the steering wheel pad is molded. If the polymerization degree of the PVC is greater than 2500, the shrinkage of the molded steering wheel pad will be high. See page 5, lines 12-19 in the present specification.

The following test results demonstrate the effect of heattreating the thermoplastic aliphatic polyurethane on the appearance of the steering wheel pad.

Colored PVC pellets and uncolored thermoplastic aliphatic polyurethanes pellets were used. Therefore, if the polyurethane and the PVC did not form a homogenous mixture during heat pressing (i.e. heterogeneous), a undesirable border-line between the colored PVC and the uncolored polyurethane will be seen.

Test pellets of the uncolored heat-treated thermoplastic aliphatic polyurethane and the colored PVC were compounded by extrusion. The test pellets were heat pressed to form a film using a press machine heated to 190°C. There was no border-line

seen in the film produced. Therefore, there was a <u>homogeneous</u> mixture of the PVC and the heat-treated thermoplastic aliphatic polyurethane.

Test pellets of a normal uncolored thermoplastic aliphatic polyurethane (no heat-treatment) and colored PVC were compounded by extrusion. The test pellets were then heat pressed to form a film using a press machine heated to 190°C. Undesirable border-lines were seen in the film. Therefore, there was a https://doi.org/10.1001/journal.org/ heterogeneous mixture of the PVC and the thermoplastic aliphatic polyurethane.

All of the Examples disclosed in the present specification used heat-treated thermoplastic aliphatic polyurethane. See page 10, line 35 to page 11, line 6 in the present specification.

The heat-treated thermoplastic aliphatic polyurethane can be prepared as follows. Pellets of normal thermoplastic aliphatic polyurethane are charged into an extruder and heated to a temperature of 180 to 220°C. The pellets are melted and extruded by the extruder, and the extruded material is cooled, for example, by using water. The cooled extruded material is then pelletized. The heat-treated thermoplastic aliphatic polyurethane is transparent and has enhanced processability. See page 11, first paragraph in the present specification.

Thus, the combination of cited references does not teach or suggest a steering wheel pad having the combination of properties

of good appearance, and good pliability at both high and low temperatures.

In view of the improbable combination of the cited prior art, the many differences between the claimed invention and the theoretical combination of the cited prior art, and the many unexpected advantages of the claimed invention, withdrawal of the Section 103 rejection is respectfully requested.

The rejection of claims 13, 14, 16, 17 and 19-24 under 35 U.S.C. § 103 over JP '345 in view of JP '454 is respectfully traversed. One of ordinary skill in the art would not be motivated to combine JP '345 with JP '454 for the many reasons provided in the Amendment dated January 30, 1995, in the subject application. For this reason alone, the Section 103 rejection should be withdrawn.

However, even if JP '345 was combined with JP '454, the claimed invention would not be taught or suggested by such a theoretical combination for the many reasons provided in the Amendment dated January 30, 1995, in the subject application and for the following reasons.

JP '454 does <u>not</u> disclose using <u>heat-treated</u> thermoplastic aliphatic polyurethane. Therefore, the Applicants submit that the combination of JP '454 and JP '345 does not disclose using a heat-treated thermoplastic aliphatic polyurethane.

In view of the improbable combination of JP '345 and JP '454, the many differences between the claimed invention and the

KOIZUMI et al. -- Appln. No. 08/396,088 theoretical combination of JP '345 and JP '454, and the many unexpected advantages of the claimed invention, withdrawal of the Section 103 rejection is respectfully requested. In view of the above, reconsideration and allowance of the subject application are respectfully requested. Respectfully submitted, CUSHMAN, DARBY & CUSHMAN, L.L.P. Peter W. Gowdey Reg. No.: 25,872 (202) 861-3078 Tel. No.: (202) 822-0944 Fax. No.: PWG/JSM:zmb 1100 New York Avenue, N.W. Ninth Floor - East Tower Washington, D.C. 20005-3918 (202) 861-3000